

### **REMARKS**

Claims 1-54 are now pending in the application. Claims 1, 13 and 46 are amended herein. Claim 51 is cancelled. Support for the amendments to the claims can be found throughout the drawings and specification. As such, no new matter is added. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

Applicant would like to thank the Examiner for courtesy extended during the interview on September 5, 2008. During the interview, the Examiner acknowledged that independent Claims 1, 13, 23 and 31 distinguish over the prior art of record. The Examiner further acknowledged that Ren, et al. (U.S. Pat. No. 6,456,590) does not disclose the counting techniques recited in Claims 1, 13, 23 and 31. The Examiner also acknowledged that the features of Claims 44 and 45 are described in the specification.

### **REJECTION UNDER 35 U.S.C. § 112**

Claims 1-22 and 39-54 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

With respect to Claims 1 and 13, Applicant has replaced the phrase "a respective one of the n ingress modules" with "the forwarding module", as suggested by the Examiner.

With respect to Claim 44, the feature of n counters that selectively refrain from incrementing a count after reception of a frame, can be found in at least paragraphs [0042] and [0049] of the present application. For example, paragraph [0042] states that

a queue counter increments a count once for each buffer enqueued and after each buffer is enqueued. Thus, a queue counter does not increment the count when a frame is received, but rather refrains from incrementing until a buffer is enqueued.

With respect to Claim 45, the feature of n counters that selectively increment a count after a buffer is enqueued and before reception of a remaining portion of a frame, can be found in at least paragraphs [0030], [0041], and [0042] of the present application. Paragraphs [0030], [0041], and [0042] disclose the storing of a frame in multiple buffers and the incrementing of a count when each of multiple buffers is enqueued. The counters of the present application are incremented based on when a buffer is enqueued, not based on when a frame is received. Thus, when a frame is stored in multiple buffers, a counter may be incremented before a whole frame is received. The counter may be incremented when a first buffer is enqueued for a first portion of the frame and before reception of a second portion of the frame and/or enqueueing of a second buffer.

With respect to Claim 46, the feature of n counters that selectively decrement a count after a portion of a frame of data in a first buffer is transmitted and before a remaining portion of the frame in a second buffer is transmitted, can be found in at least paragraphs [0048] and [0049] of the present application. Paragraphs [0048] and [0049] disclose the storing of a frame in multiple buffers and the decrementing of a counter for each buffer of data transmitted as each buffer is freed up.

Reconsideration and withdrawal of the §112 rejections are respectfully requested.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 1-30 and 40-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's admitted prior art (AAPA) in view of Ren. This rejection is respectfully traversed.

With respect to Claim 1, AAPA and Ren fail to at least show, teach or suggest n counters that selectively increment a count based on when a respective ingress module enqueues a buffer to a destination channel. When a buffer is enqueued, an address pointer is stored corresponding to a buffer. A buffer refers to memory in which a received frame is stored.

The invention of Claim 1 tracks actual memory usage regardless of frame size via the claimed counters. By selectively incrementing a count based on when a respective ingress module enqueues a buffer to a destination channel, a counter tracks the number of buffers of a memory that are allocated (used). As each additional buffer is allocated, a counter is incremented. This provides for a count of actual memory usage.

The Examiner acknowledges that AAPA fails to disclose the claimed counters and relies on Ren for such disclosure. The Examiner alleges that Ren teaches incrementing a counter if a channel receives a frame. Applicant submits that the counters of Ren are different than counters recited in Claim 1. The counters of Ren are incremented based on frame reception, not based on enqueueing of a buffer. Thus, the counter values of Ren are not representative of actual memory usage.

Not all received frames of a network switching device are stored in a memory. Some frames are dropped for policy reasons. Thus, although a frame is received, a buffer may not be enqueued.

The buffer size of a memory may not match the size of the received frame. Thus, unfilled memory may be allocated to a channel.

The bytes associated with allocated buffers (memory usage) may be different than the number of bytes of a frame. Thus, actual memory usage, as associated with a frame, is greater than the size of the frame.

The counters of Claim 1 are incremented when a buffer is allocated, not when a frame is received. For at least this reason, the counters recited in Claim 1 track the actual amount of memory usage. As best understood by Applicant, Ren discloses incrementing only when a frame arrives at a received channel. See col. 7, lines 59-61 of Ren. The number of frames received does not represent actual memory usage on a network switching device.

In paragraph 8, of the Office Action, the Examiner alleges that Ren discloses the enqueueing of a frame. In the Interview, a question was raised with regard to what is meant by "enqueueing a frame". The Examiner stated that enqueueing a frame refers to the storing of a frame. Applicant submits that this is irrelevant as Claim 1 recites the enqueueing of a buffer, not a frame. Applicant has shown that the counters of Ren are not incremented based on the enqueueing of a buffer, as admitted to by the Examiner.

Claim 1 is allowable for at least the above reasons.

With respect to Claim 1, AAPA and Ren also fail to at least show, teach or suggest egress modules that exercise flow control on a respective channel when a count, as recited in Claim 1, is greater than a pause threshold. Since AAPA and Ren fail to disclose the claimed incrementing, AAPA and Ren also fail to disclose flow control based on values of the claimed counters.

It is a longstanding rule that to establish a prima facie case of obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 143 (CCPA 1974), see MPEP §2143.03.

Therefore, Claim 1 is further allowable for at least the above reasons. Claims 13 and 23 are allowable for at least similar reasons as Claim 1. Claims 2-12, 14-22, 24-30, 39-50 and 52-54 ultimately depend from Claims 1, 13 and 23 and are allowable for at least similar reasons.

Claims 31-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Ren and Langberg et al. (U.S. Pat. No. 5,852,630).

With respect to Claim 31, AAPA, Ren and Langberg fail to at least show, teach or suggest incrementing a count when a buffer is enqueued and causing flow control on a channel when the count is greater than a pause threshold.

The Examiner admits that AAPA and Ren do not disclose incrementing a count when a buffer is enqueued. Applicant submits that this feature is also not disclosed in Langberg.

Therefore, Claim 31 is allowable for at least the above reasons. Claims 32-38 ultimately depend from Claim 31 and are allowable for at least similar reasons.

Therefore, Claim 31 is allowable for at least the above reasons. Claims 32-38 ultimately depend from Claim 31 and are allowable for at least similar reasons.

**ALLOWABLE SUBJECT MATTER**


The Examiner states that claims 44-46, 51, 53 and 54 would be allowable if rewritten in independent form. Applicant reserves the right to amend the claims into their originally allowable form at a later date if needed. Claims 44-46, 53 and 54 depend from Claim 1 and are allowable for at least similar reasons.

## CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: September 11, 2008

By:   
Michael D. Wiggins  
Reg. No. 34,754

Jeffrey J. Chapp  
Reg. No. 50,579

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

MDW/JJC